



## CERTIFICATE OF ANALYSIS

Tank:	6	File:	EC09 / BO1164
Location:	Sprague Providence, RI	As At:	01/27/09
Product*:	Residual Fuel Oil	After disch:	DBL-105
Client Ref	V-09-00146	*As designated by client	

The following analytical results were obtained from samples drawn from Shore tank.

PRODUCT PROPERTY	METHOD	RESULT	
Gravity, °API @ 60°F	D-287	11.0	Upper
-	-	11.0	Middle
-	-	11.0	Lower
-	-	-	-
Sulfur, wt%	D-4294	0.843	Upper
-	-	0.856	Middle
-	-	0.839	Lower

API Gravity, °API	D-287	11.0
Sulfur, wt%	D-4294	0.841
Ash content, wt %	D-482	0.076
Asphaltenes, wt%	IP-143	2.7
Micro Carbon Residue, wt%	D-4530	10.2
Flash Point - PMCC, °F	D-93	182
Heat of Combustion, BTU/lb	D-240	18356
Heat of Combustion, BTU/gal	D-240	151800
Nitrogen, wt%	D-4629	0.444
Pour Point, °F/°C	D-97	59/15
Sediment by Extraction, wt%	D-473	0.034
Viscosity @ 50 °C (122 °F), cSt	D-445	204.4
Viscosity @ 50 °C (122 °F), SSF	D-2161	96.6
Water & Sediment, vol%	D-1796	0.10
Water by Distillation, vol%	D-95	<0.1
Sodium, ppm	ICP	9.2
Vanadium, ppm	ICP	9.4
Aluminum, ppm	ICP	160
Silicon, ppm	ICP	170

SPRAGUE PROVIDES THE ATTACHED INSPECTION REPORT/ANALYSIS REPRESENTING THE SPECIFICATIONS OF THE PRODUCT AT THE SPRAGUE TERMINAL IN TANK ON THE DATE OF INSPECTION NOTED ON THE CERTIFICATE. THIS ANALYSIS IS PROVIDED TO THE CUSTOMER FOR THE PURPOSE OF ESTABLISHING THE INDEPENDENTLY VERIFIED PRODUCT SPECIFICATION ON A COMPOSITE BASIS IN SPRAGUE'S TERMINAL SHORE TANK AS NOTED ON THE CERTIFICATE. THE INSPECTION REPORT IS NOT TO BE USED FOR ANY OTHER PURPOSE. SPRAGUE DISCLAIMS ANY LIABILITY FOR THE PRODUCT AFTER DELIVERY BY SPRAGUE TO CUSTOMER. SPRAGUE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR AN INTENDED USE EXCEPT AS MAY BE SPECIFICALLY SET FORTH IN WRITING IN ANY CONTRACT OR TERMS OF SALE BETWEEN SPRAGUE AND A BUYER OF PRODUCT. SPRAGUE ASSUMES NO LIABILITY FOR CLAIMS OR LOSSES THAT MAY ARISE FROM CUSTOMER'S USE OF THIS INSPECTION REPORT/ANALYSIS.

RESULTS ARE VALID "AS AT" DATE AND LOCATION LISTED

Samples are retained for a period of 30 days unless otherwise requested in writing